

CMS News

A Publication of The Clay Minerals Society

Volume 12, Number 1, Winter 2001

Clay Scientists Visit the Windy City

In June, Loyola University of Chicago hosted the 37th annual meeting of The Clay Minerals Society. The meeting opened with a well-attended workshop on Industrial Clay Mineralogy organized by Bill Moll.

Presentations focused on a variety of topics including kaolin processing and mineralogy, bentonite properties and markets, intellectual property and patent law and principles of mining and reclamation. This industrial clay workshop departed from past formats, which tended to focus on mineralogy, properties, processing and markets, by including broader topics on law and reclamation. The traditional wine and cheese reception followed.

On Sunday, while the Council met to conduct Society business, many conference attendees arrived in time to

attend the conference reception at Chicago's famous Field Museum. The reception was held in a hall adjacent to "Underground Adventure," an exhibit where the viewer "shrinks" and then enters the world of soil complete with huge plant roots and gigantic organisms including grubs and microbes of various descriptions. Musical entertain-

(story and photos continued on page 7)

Derek Bain Named New Editor



Dr. Derek Bain of the Macaulay Land Use Research Institute has been appointed as the new Editor-in-Chief of Clays and Clay Minerals. For the past 12 years, Derek has served as Principal Editor of Clay Minerals, the Journal of the European Clay Groups. He will step down from this position to assume the editorship of Clays and Clay Minerals. During his tenure

as editor of Clay Minerals he oversaw the successful deployment of an on-line version of the journal and an increase in subscriptions as well as submissions. Derek has appointed Kevin Murphy as the Managing Editor. Kevin is also very experienced in the field of editing having served as Production editor for Clay Minerals and Mineralogical Magazine. We welcome Derek and Kevin.

Starting immediately, correspondences regarding manuscripts should be sent to Dr. Derek C. Bain, The Macaulay Land Use Research Institute, Craigiebuckler, Aberdeen AB15 8QH, Scotland, UK. Phone: + 44 (0)1224 498242; USA and Canada FAX: 1-240-757-7440; FAX elsewhere: + 44 (0)1224 498207; e-mail: clayed@mluri.sari.ac.uk



Steve and Linda Guggenheim

Thank You, Steve!

One of the most important jobs in The Clay Minerals Society is that of editor-in-chief of our journal. We all owe a debt of gratitude to Steve Guggenheim for the outstanding job he has done in bringing Clays and Clay Minerals to its current level of international prominence in clay science. Over the past two years, he and his managing editor (and spouse), Linda Guggenheim, were able to publish manuscripts with an efficiency and timeliness that other journals only dream about, all while maintaining high scientific and editorial standards. Our hats are off to you, Steve, and to Linda and your associate editors for your service to the Society. Thank you!

Darrell Schulze,
President, The Clay Minerals Society

The Clay Minerals Society



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The Clay Minerals Society

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Student Travel Grants

CMS Student Members who will be presenting a paper at the annual CMS conference are eligible for this grant. The grant covers travel expenses up to \$500 for travel to the CMS annual conference.

EUROCLAY 2003

Euroclay 2003 will be held in Modena Italy and is organized by the Italian AIPEA group. The meeting will take place before August 31 and not after September 15. If you plan to attend, please complete the pre-registration form at the web site <http://www.unimo.it/euroclay2003>

For further details, please contact:

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Student Research Grants

The Clay Minerals Society annually awards several grants of up to \$2500 through its student research grant program. The program provides partial financial support of masters and doctoral research for graduate students of clay science and technology. Applications will be judged on a competitive basis. The qualifications of the applicant, the financial need of the research project, and the design of the project are evaluated. There is no restriction with regard to nationality. Applications are available from the CMS office.

Donations Needed

The CMS headquarters office receives many requests from libraries and soil/earth science departments worldwide for donations of CMS books and other materials. If you have purchased CMS publications in the past that you are no longer using, please consider donating them to the society for re-distribution to these libraries.

Marilyn and Sturges Bailey Distinguished Member Award

The Clay Minerals Society (CMS) is soliciting nominations for the Bailey Award. This highest honor of the CMS is awarded solely for scientific eminence in clay mineralogy (in the broadest sense) as evidenced primarily by publication of outstanding original scientific research. Service to clay mineralogy, teaching and administration are not considered. This award replaces the CMS's Distinguished Member Award: hence, previous members of the Distinguished Member Award are ineligible. (Visit the CMS website for a list of previous awardees.)

Nominations for the Bailey Award consist of a cover letter and supporting letters outlining the candidate's qualifications in light of the criteria above. (Supporting letters may be solicited by the primary nominator). Nomination material should be sent by April 1, 2001, to the committee chair: Joseph W. Stucki, University of Illinois, W-317 Turner Hall, 1102 S. Goodwin Avenue, Urbana, IL 61801 USA. Telephone 217-333-9636; fax: 217-244-7805; jstucki@uiuc.edu

Recommendations by the committee will be evaluated by the CMS Council, and the presentation of the Bailey Award will be made at the annual meeting of The Clay Minerals Society.

In Memory of Dr. Toshio Sudo ~ 1911-2000

Dr. Toshio Sudo, distinguished member of The Clay Minerals Society and professor emeritus of mineralogy at Tokyo University of Education, died of heart failure on the evening of April 12, 2000, at a hospital after a brief illness.

He was the founder of clay mineralogy in Japan, an outstanding teacher, a very fair and thoughtful adviser both to beginners and professionals and, above all, a brilliant scientist. Among mineralogists, he is well recognized by the two mineral names sudoite and tosudite. His dedication to science never stopped him from thinking of new and unsolved problems in mineralogy, including the 25 years after his official retirement. In fact, he was anxious to see his paper on human calculi accepted for publication in *Chemical Structure*. Unfortunately this did not happen in time and the paper became his last.

Toshio Sudo was born in Shirone, Niigata, Japan on July 12, 1911, the son of an ethics and philosophy professor, Shinkichi Sudo. He obtained a B.Sc. degree in mineralogy from the Tokyo Imperial University (presently University of Tokyo) in 1936 and joined the Science Council under the direction of the Department of the State Affairs of Manchuria (presently northern China) to do research on mineral resources in that region. In 1939, he returned to Japan and started teaching as a lecturer in the Mineralogical Institute, Faculty of Science, at the Tokyo Imperial University. Sudo received the Geological Society of Japan Award in 1941 for his mineralogical study of iron ore deposits in eastern Manchuria. He was promoted to associate professor of economic geology in the Geological Institute of the same university in March 1944 and awarded the Doctor of Science degree three months later. He was then appointed a professor of mineralogy in the Geological and Mineralogical Institute, Faculty of Science, Tokyo University of Education (presently University of Tsukuba) in 1953, a position that he

held until his retirement in 1975, after which he became professor emeritus.

It is interesting to note that Sudo's early works were very careful descriptions of a variety of non-clay minerals. His first exposure to clays came through his interest in fine greenish ferruginous minerals associated with iron ores. He later reflected on this first encounter with clay minerals as one of the great moments of his research career. In addition to those chloritic minerals, iron-rich di- and trioctahedral smectites were a long-standing interest of Sudo. Although his interest covered almost every aspect of clay mineralogy, his major works were closely related to the formation, distribution and property of clays occurring in wall rock alteration zones, sediments and soils. He is recognized as one of the first to discover zeolites as major constituents of liparitic tuffs and to comprehend their significance as authigenic products of altered volcanic ash. He systematically studied the development of clays from volcanic glass and tuffs and observed volcanic glass-derived hydrated halloysite having an onion-like structure later termed "Sudo Ball".

Sudo was also the first to recognize randomly interstratified kaolinite-montmorillonite in acid clay deposits in Japan. In 1954, he recognized regular interstratifications of dioctahedral chlorite and montmorillonite layers. Frank-Kamenetsky and associates, in 1963, proposed the name of tosudite for these regularly interstratified minerals.

Dioctahedral chlorites as single minerals had been reported from various localities when, also in 1963, Miller proposed the name sudoite, a term which is now specifically used



for chlorites with dioctahedral 2:1 layers and Mg-Al trioctahedral interlayers. He studied clays formed in Recent sediments, the distribution of clays in deep-sea sediments from the North Pacific and Indian Oceans, carried out experimental transformation of micas into interstratified minerals, synthesized sodalite from volcanic glass, assessed polymorphic conversions in silicates, and developed analytical methods for quantifying clay minerals. Notably, his early involvement in clay mineral quantification was to construct a differential thermal analyzer for clay mineral study. In his research, he also pointed out that clay minerals often exhibit properties uncharacteristic of known species and called them by the generic term "intermediate" minerals. An example of this is expandable clays that exhibit character intermediate to smectite and vermiculite. He

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In Memory of Dr. Toshio Sudo ~ 1911-2000

(continued from page 3)

emphasized that irregularity, imperfection and disorder were commonly encountered in clay mineralogy. In the late 1950s, he proposed the so-called polarity concept for illustrating the layer charge distribution of silicate layers in a regular interstratified structure. According to this concept, actual charge distribution was uneven within a silicate layer and the layer charge at one side of the silicate layer was larger than the opposite side. This concept has been widely accepted and referenced.

Sudo was dedicated to education throughout his life. He wrote articles to general audiences, including young enthusiasts, for the promotion of earth sciences. A university classmate once related an anecdote about how Sudo was always actively learning from students and professionals alike. While a high school student, he wrote a letter to Sudo requesting information on quartz mineralogy, to which the student received a very copious answer from Sudo. Sudo maintained the philosophy that there should be no difference between professionals and students when it came to research in science, by stressing the importance of mutual learning. His approach to research and education may have been inspired by a 3-month trip to the USA in 1950, during which he visited universities and government agencies. Following this visit, he returned to Japan to re-establish earth science education in universities battered by World War II.

He was an excellent teacher who fluently delivered well-organized and prepared lectures. He also published a number of textbooks. *Nendo-k* (butsu) (Clay Minerals), printed in 1953 was, of course, the first Japanese book of its kind. The book soon became the most valuable reference for students and researchers, and was revised and enlarged over 13 printings until 1974 when it was replaced by a completely new book entitled *Nendo-k* (butsugaku) (Clay Mineralogy). His first 25 years of clay research was

systematically summarized in the book *Mineralogical Study on Clays of Japan* (1959).

When he moved to Tokyo University of Education, he developed a new clay mineralogical laboratory virtually from scratch. Due to limited laboratory space, he set up the DTA he built in a corner of his office in the early 1950s, so users had to operate the analyzer in his office. On hot and humid summer days without air-conditioning, they struggled every minute to observe increasing temperature rate and record energy changes involved in thermal reactions. Measurements up to 1000°C for one sample usually required 100 minutes. Daily operation in those days provided only two runs in the morning and afternoon, because at least three hours were required for cooling down the furnace to room temperature with the aid of an electric fan. Although it would be an unimaginable scene nowadays, those who experienced this still vividly remember it with a sense of nostalgia. He was well-respected by students and colleagues alike, who, upon his retirement, named a student-faculty round table in honor of Sudo. This honor was quite appropriate given his commitment to communication and mutual learning between students and faculty.

His years in Tokyo University of Education (1953-1975) were the most productive in research and education. He supervised at least 84 B.Sc., 29 M.Sc. and 24 Ph.D. theses. His publications for his entire career, many jointly with colleagues and students, were over 350. In 1957, Sudo received the prestigious Asahi Prize from Asahi Shimbunsha for his contribution to mineralogical studies on clays altered from materials of volcanic origin materials. He was a recipient of the 1979 Distinguished Member Award of The Clay Minerals Society. Sudo was awarded the 2nd Order of the Sacred Treasure by his nation. In 1987 the Watanabe Manjir Award was bestowed on him from the Japanese Association of Mineralogists, Petrologists and Economic Geologists.

During the late 1940s and early 1950s, clay research in Japan was still in its infancy and conducted in rather small groups at scientific and academic institutions. Sudo was the leading spirit and was instrumental in forming a study group of clays for researchers specialized in mineralogy, geology, chemistry, chemical engineering, agricultural sciences, material sciences and soil mechanics.

This Clay Research Group of Japan was then officially inaugurated in 1957 and became The Clay Society of Japan in 1964. He was the first president of the Group (1958-1964) and of the Society (1964-1966). He served as president of the Geological Society of Japan (1970-1971). He also served as vice-chair (1956-1960) and chair (1960-1964) of Commission VII (Soil Mineralogy) of the International Society of Soil Science (presently International Union of Soil Science), as councillor of the International Congress of Sedimentology (1963-1965), as councillor of the International Congress of Thermal Analysis (1965-1968), as councillor of the Association Internationale pour L'Étude des Argiles (AIPEA, 1966-1972), and as chair of the Organizing Committee for the 3rd International Clay Conference of AIPEA in Tokyo in 1969. He served on special committees under the Japan Science Council as a mineralogy specialist on numerous occasions.

Finally and most importantly, Sudo was a truly kind human being who will be missed by his wife, Reiko, two daughters, Mitsuko Miyano-hara and Fumiko Saitoh, and six grandchildren.

He will be remembered by his research colleagues and his many students from University of Tokyo and Tokyo University of Education for his insightful scientific contributions and his genuine modesty.

Hideomi Kodama
Ottawa, Canada

Robert C. Reynolds, Jr. Awarded Roebling Medal



Robert C. Reynolds, Jr.

On Tuesday, November 14, 2000, Robert Coltart Reynolds, Jr., received the Roebling Medal from the Mineralogical Society of America in absentia. The Roebling Medal "... is the highest award of the Mineralogical Society of America (MSA) for scientific eminence as represented primarily by scientific publication of outstanding original research in mineralogy."

Bob and his wife, Roseann, had to abandon their plans to travel to Reno for the presentation when an aneurysm was discovered on his aorta. Surgery was scheduled immediately and, coincidentally coincided precisely with the MSA luncheon. So, instead of getting a free lunch and a gold medal, he was put to sleep on an operating table. Dick Birnie, the head of the department at Dartmouth, and a long-time friend and colleague of Bob's, accepted the medal for Bob and read the acceptance message Bob had written. Dewey Moore was Bob's citationist. The full text of the citation and the acceptance will appear in a future issue of American Mineralogist. Robert C. Reynolds will deservedly join a most distinguished international group of 59 mineralogists who previously have been awarded the Robeling Medal.

Bob's department organized a special Alumni cocktail party to recognize Bob's award. It was held Tuesday evening by which time it was announced that Bob was out of surgery and doing fine although not yet recovered from the anesthesia. At the cocktail party, several people, who normally wouldn't touch scotch, unless they were going to use it to extract organics from a shale sample, were observed drinking scotch as a way to honor their absent mentor. Such sacrifices!

In addition to the medal presentation and the cocktail party, Jim Aronson organized a special technical session to honor Prof. Reynolds, Mineralogy of the Mixed-Layer Clays with Applications for Understanding Earth Processes and History. Twenty-one papers were presented, and in almost all, the speaker related stories about their association with Bob. Several had slides of Bob in various stages of his career. There were lots of laughs and thoughtful moments as we recalled how much Bob Reynolds has given to each of us. In addition, there was a large dose of first-rate science synthesizing observations and raising stimulating questions. Aronson caught most of the proceedings at the cocktail party and the technical session on videotape. We tried to imagine Bob watching this Andy-Warhol-goes-to-the-GSA tape from his hospital bed.

If the force of will of the people who gathered to celebrate the career of this wonderful man has any influence at all, Bob Reynolds will be up, bouncing around, and as full of enthusiasm as ever by a week after his surgery.

Dewey Moore
Urbana, Illinois

Meeting of the "Workshop on Clay Mineralogy" September 2000 in Jena

The first meeting of the European Workshop on clay mineralogy was held over a four-day period at the Friederich Schiller University in Jena. Eleven lecturers presented contributions to some 40 participants, who came from many countries, and as far away as New Zealand. The main objective of the meeting was an introduction to clay mineralogy, followed by an explanation of specific techniques of clay analysis. Emphasis was placed on both lectures and laboratory sessions where participants could get acquainted with the state-of-the-art techniques in clay mineralogy. First day sessions dealt with the origin of clay minerals, their geological occurrence and their transformation during diagenesis. The second-day sessions dealt with determining CEC by different methods and identification of iron oxides, especially by Mössbauer techniques. The third day was devoted to giving a general overview of the different specialized laboratory methods used for studying clays and clay minerals. Special emphasis was given to the X-ray diffraction investigation of clay minerals by peak decomposition and modeling methods. The last day was devoted to the microscope identification of clay minerals in sandstones. Another point of discussion was the chemical and colloidal stability of clays in solutions and XAFS and XANES methods used to resolve specific problems of clay-ion assemblages. Evening social events were an initial icebreaker party and a Bratwurst barbecue dinner at a site overlooking Jena. Overall, the workshop was conducted in a good-humored atmosphere, and provided an excellent forum for discussion and feedback between all participants.

Andreas Bauer
Karlsruhe, Germany



Bruce Velde

Student Research Profile

ANDREW WALL

Hometown: Harrison, Maine
Academic History: Middlebury College, Geology major, Graduated with Honors in Geology, 2000.

Thesis Advisor: Peter Ryan

Research Topic: Use of quantitative XRD and sequential extraction to assess trace metal speciation and source, and relationships between trace metal availability and ecosystem response.



What Led to Your Interest in Clay Minerals? About two years ago, I knew very little about clays, but was drawn into clay mineralogy through my undergraduate thesis work. The original focus was not clays, but rather a geochemical survey of wetland sediment to infer relationships between trace metals and frog malformities. Positive correlations between trace metals and elements such as Fe, Mg and Al, and preliminary XRD analyses suggested chlorite as a possible source of metals. This led into more detailed, post-thesis work at the Macaulay Institute with my advisor Peter Ryan and Steve Hillier of MLURI. While there, I carried out sequential chemical extractions and quantitative XRD analyses that indicated trioctahedral chlorite as the primary source of trace metals in the sediments. By using Hillier's quantitative XRD method, we determined that smectite and chlorite dissolve throughout the extraction procedure, which has important implications for interpreting such data.

Other interests? Air pollution research. This past summer I lived at 5000 ft on the side of Mt. Washington, collected data for acid precipitation research, and educated people about causes and effects, instrumentation and data analysis. I enjoy being outdoors, singing, playing guitar with friends, and of course carrying out low friction, high velocity gravity research in frozen crystallized water particles.

Okay, you mention music. Care to share a favorite song or artist? Well, I have written a lot of songs as part of a folk trio, sort of sailor shanties if you will, but they may not be appropriate for sharing in this publication. But they are fun. Some call this style of music "Bluecrass".

Future plans? I will return to Mt Washington next summer, and in the fall, I hope to return to the MLURI for more geochemical-clay mineralogical research in Scotland – in this case, working with Ryan and Hillier on ultramafic rocks and natural sources of trace metals. Between now and then, I will be ski patrolling at Park City, Utah. Graduate school may have to wait for a few years, as I'm not sure whether I want to pursue a PhD and teaching or a MS and consulting.

Anything else you would like to share with CMS members? I felt it was a great opportunity to be able to present at The Clay Minerals Society meeting.

Favorite clay? Chlorite, since that is the first one I really worked with. Smectite is a close second, but was a later discovery so is not quite as close to my heart as chlorite.

Favorite Alternative Use of Clay (other than academic or industrial purposes)? Claymation, such as Wallace and Gromit and, to a lesser extent, the California raisins.

12th International Clay Conference

and

3rd International Symposium on Activated Clays (ISAC)

July 22-28, 2001

Bahía Blanca, Argentina

The 12th International Clay Conference (12ICC) will be held on the campus of the Universidad Nacional del Sur in Bahía Blanca from July 22 to 28 under the auspices of the Association Internationale pour L'etude des Argiles (AIPEA) and with the participation of the International Society of Soil Science (Commission VII). The theme of the conference is "2001 a Clay Odyssey". Seven general sessions and six symposia are planned and will be held in conjunction with the 3rd International Symposium on Activated Clays. Field excursions before, during and after the conference will be offered. Field trip participants will have the opportunity to examine the landscape, geology, clays and culture in remote places such as the Atlantic Ocean, the Andean Ranges, the Iguazú Falls and the Buenos Aires Pampas. Conference attendees will also have the opportunity to enjoy several social events including asado and tango shows.

For more information visit the conference website at www.12icc.criba.edu.ar or contact:

Fernanda Cravero
Secretary-General

12th ICC

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Clay Scientists Visit the Windy City (continued from page 1)

ment was provided by a folk musician well-versed in clay. Not only did she sing all verses to "A Hundred Pounds of Clay" but she also shared the interesting fact that the bag on the bag pipes is often lined with a cat litter bag because the residual clay absorbs excess moisture. To cap off an already ideal evening, we were allowed a private viewing of Sue, the largest, best preserved and most complete *Tyrannosaurus Rex* skeleton.

The meeting officially opened with the Monday morning Plenary Session, which included Dewey Moore's Brindley Lecture "Links: George Brindley and Intellectual Genealogies." Dewey, who is also the Society historian, traced "intellectual" links from Röntgen and the discovery of X-rays to current members of the CMS. Jill Banfield, Jackson Mid Career Clay Scientist awardee, followed with a fast paced and very interesting presentation describing some of her recent research into biomineralization. Bill Moll informed and entertained us with all sorts of interesting topics,

including the rheological properties of toothpaste, during his Pioneer in Clay Science lecture "Clays Where You Least Expect Them."

Finally, Boris Zvyagin, recipient of the Bailey Award, discussed "Current Problems of the Nomenclature of Phyllosilicates." He gave a thorough review of the problems associated with phyllosilicate nomenclature.

Concurrent technical sessions on diverse topics ranging from nanocomposite materials to archaeology to extraterrestrial clays kept conference attendees busy Monday afternoon, Tuesday morning and Wednesday.

In addition to technical sessions, there were three field trips to choose from, as well as many opportunities for spirited discussion in our 15th floor "headquarters."

On Tuesday evening, we set sail for our conference dinner onboard the "Spirit of Chicago." The sunset over Chicago's spectacular skyline couldn't have been better. The evening ended with high-spirited dancing, party streamers and singing.



Alanah Fitch



Alanah Fitch and her son,
Adam Benson



Clay scientists admire Sue.

Thanks to Haydn Murray, Dave Pevear, Jean Hemzacek Laukant and Leslie Shivers for the photographs that appear in this edition of CMS News.



Jessica Elzea Kogel and Leslie Shivers



Dave Pevear, CMS Treasurer



Left to right: Pat Costanzo, Alain Manceau, Victor Drits, Faiza Bergaya, Douglas McCarty, Boris Zvyagin, Bailey Award recipient.



Richard Brown dances with Jean Hemzacek Laukant.



Richard Hay and Bob Ylagan



Left to right: Bob Reynolds, Dick Berry, Ross Giese, Darrell Schulze, back of Bob Ylagan



Left to right: Bob Ylagan and Boris Zvyagin.



Left to right: Bill Moll, Dave Laird, Pat Moll.



Rick Lahann, CMS Secretary



Leslie at work.



Left to right: Ron Hill, Bob Ylagan, Eric Daniels.



Joe Dixon and Warren Huff march behind piper.



Crawford Elliott and Bob Reynolds

Clay Scientists Visit the Windy City



Left to right: Shoba Parekh, Christina Shriner, Ann Becker and Erin Becker



Left to right: Chip Malcolm, Haydn Murray, Andy Thomas.



Outgoing President Pat Costanzo (left) and Incoming President Darrell Schultze. Background (left to right): Rick Lahann, Bob Reynolds, Dave Pevear, Pat Moll and Sarkis Ampian.

1st Latin-American Clay Conference held in Funchal, Madeira Archipelago September 17-22

In the last ten years, the European clay community has seen extraordinary progress both in the quality of its science and in the number of clay scientists joining the National Clay Groups affiliated with the European Clay Groups Association (ECGA). Some of the National Clay Groups have been in existence for 40-50 years.

Everybody is aware of the importance of the fundamental and applied aspects of clay science and of the need to develop cooperative exchanges between clay scientists, research teams and National Clay Groups. The "youngest" European Clay Group, founded in 1998, is the Associação Portuguesa de Argilas. This group has 35 individual and 2 institutional members. The individual members have varied education and interests in clays: geology, mineralogy, chemistry, environmental sciences, geotechnics, soil science, ceramics, paper and plastics. In fact, the Associação Portuguesa de Argilas was created through the efforts of Professor Celso Gomes from the University of Aveiro, who about 25 years ago also created the Portuguese Clay Group within the Geological Society of Portugal.

In the last two years, the Associação Portuguesa de Argilas organized two international clay conferences: 2nd Mediterranean Clay Meeting held in Aveiro, in 1998, and the 1st Latin-American Clay Conference, held in Funchal, Madeira archipelago, in 2000. The main topic of this meeting was "Clays in Volcanic Environments." This meeting was remarkable in every aspect, including scientific and social. The exoticism of the main islands, Madeira and Porto Santo, and the friendly atmosphere was greatly appreciated by the nearly 200 participants from twenty-five countries and five continents. Thirty lectures were delivered by senior and prestigious invited speakers: Lisa Heller-Kalai, Shmuel Yariv, Ray Frost, Radko Künel, Warren Huff, Richard Merriman, Norbert Clauer, Alain Meunier, Jacques Thorez, Françoise Elsass,



Warren Huff (left) congratulating Antoine Más (right). Jose Louis Perez Rodriguez in the foreground.



Celso Gomes (right) congratulating invited speakers: (front to back) Jack Thorez, Norbert Clauer and Dick Merriman.

Hideo Minato, Emilio Galán, José Maria Serratos, Faiza Bergaya, António Violante, Roland Schwab, Liberto de Pablo-Galán, Saverio Fiore, Luciano Tomadin, Manuel Pozo Rodriguez, Ivan Kraus, Andrej Wiewiora, Karel Melka, Milton Formoso, João Rocha, Fernando Veniale, Jean Frank Wagner, Shlomo Shoval, Fernanda Cravero and Giora Ritwo. Also, seventy posters were exhibited and evaluated by a panel of five specialists. Awards were given for 3 posters whose first author was under the age of 35. Antoine Mas (Precise clay mineral identification in a subaerial basaltic flow from the Mururoa Atoll), Eduardo Ferraz (Distinct kaolin grades identified on the basis of their composition) and Helder Chaminé (Clay mineralogy, organic metamorphism and palynology of black shales) received the cash awards.

Both lectures and poster texts were published in two volumes edited by Celso Gomes.

Iuliu Bobos
Aveiro, Portugal

Feats of Clay

Paul A. Schroeder of the University of Georgia, Department of Geology, has been named the Lothar Tresp Outstanding Honors Professor at the University of Georgia, Athens, Georgia.

Sridar Komarneni, Professor of Clay Mineralogy in the Department of Agronomy and Materials Research Laboratory, John C. Parker of Circon Technologies Corporation and Horst Hahn of Darmstadt University of Technology in Germany, are co-editors of *Nanophase and Nanocomposite Materials III*, published in 2000 by the Materials Research Society, Warrendale, PA.

The 2000 Clay Minerals Society Best Student Paper and Poster awards were presented to four CMS members. The Best Student Paper was awarded to Youijun Deng for his paper "Structural Stress Induced Intercalation of Kaolinite by Hydrazine." Co-authors were Joe B. Dixon and G. Norman White. The Best Student poster was awarded to Carla B. Swearingen for her presentation "Ferrocenyl Surfactants and Their Effects on Sodium Montmorillonite." The paper was co-authored with Alanah Fitch. Heather Dion received Best Student Paper Runner-up and Mary R. Hynes received Best Student Poster Runner-up.

Six students were awarded Clay Minerals Society Student Research Grants for 2000. Recipients are:

Susan L. Bernarz, Department of Geology, Portland State University; Influence of halloysite morphology and textural setting on the engineering properties of basaltic saprolites in Western Oregon.

Joan Marie Breiner, Department of Environmental Sciences, University of California Riverside; The modification properties of a colloidal mineral surface by adsorption of a hydrophobic organic compound and its influence on transport and deposition.

Heather M. Dion, Department of Chemistry, Washington State University; Determination of partition coefficients for clay minerals and polar organic herbicides using subcritical fluid chromatography ion mobility spectrometry.

Angelique Emerson, Department of Geology and Geological Engineering, South Dakota School of Mines and Technology; Applications of visible and near infrared spectroscopy for the study of metamorphosed argillaceous rocks.

Lori G. Eversull, Department of Geology and Geophysics, Louisiana State University; Geologic controls on mineralogy and industrial properties of clays in the Quincy-Attapulugus (N. Florida - S. Georgia) clay district.

Youwen You, Department of Renewal Resources, University of Wyoming; Absorption of inorganic and organic contaminants by layered double hydroxides (LDHS).



Kathy Nagy and Leslie Shivers

Student Travel Grants were awarded to Kirsten Mueller (Knox College) and Fatma Toksoy-Koksal (Department of Geological Engineering, Middle East Technical University, Aankara, Turkey).

New council members elected at the Chicago meeting are William F. Bleam, Kathleen A. Carrado, Warren D. Huff, and Prakash B. Malla. Kathy Nagy was nominated as Vice-President Elect.

Charles Weaver has published his first novel (see review in this issue of CMS News)!

APPLIED CLAY SCIENCE JOURNAL

SPECIAL SUBSCRIPTION OFFER TO CMS MEMBERS

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- CMS members may be interested to know that the ACS journal has recently been recognized by the Institute for Scientific Information and now has an officially cited impact factor. This means that acceptance of a paper in ACS now has higher recognition as a refereed journal.
- A recent 1999 issue (Nanocomposites, edited by Gerhard Lagaly and Tom Pinnavaia) attests to the quality of this journal and its strong international and commercial focus.

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A New Clay Scientist Pioneer?

Book review: *Global Bogeymen*, by C.E. Weaver
(Wings Publishers, GA, 2000)

Looks like we may have a new pioneer in our midst – could this be the first (published) novel ever written by a clay mineralogist? We haven't heard anything to contradict this claim, so until then, Chuck Weaver stands boldly alone in this distinction. And, from my point of view, he can wear that badge proudly.

"*Global Bogeymen*," the first novel by the esteemed clay scientist, Charles E. Weaver, is a tale of the clashes and compromises that scientists face when working on politically hot issues such as global warming and nuclear waste disposal. These are two subjects with which Dr. Weaver is very familiar, having worked on these issues for many years as a clay scientist. That knowledge comes clearly through in this novel, giving us insight into the scientific, political, and ethical issues that permeate any practical work undertaken by scientists working on these two high-profile subjects. It is these insights, which makes this novel a very worthwhile read.

The story revolves around a Professor Steve Summer, a renowned expert on clays and shales, who taught at Georgia Institute of Technology for many years (sound familiar, yet?) He has been summoned to oversee the crash construction of a high-level nuclear waste repository in North Carolina. This project is progressing quickly and quietly in order to advance the political careers of the president (looking to get re-elected) and various other politicians and bureaucrats. All the political wheels have been greased, and all that is needed is some good luck and geological expertise to make sure that the already-chosen site (chosen merely for political reasons) contains enough impermeable shale to make a well-contained repository! This is where Dr Summer's expertise on shale and geological evaluation of potential waste repositories, comes in. Steve accepts the challenge and then quickly sinks into a quagmire of political intrigue and manipulation as he tries

to make sound geologic decisions with little data and less time. The bureaucrats are busy trying to cover their rears in case something goes wrong, while terrorists come onto the scene, trying to make a statement of their own. On the way, we get lots of great insights into the geologic and engineering issues that would be involved in constructing such a repository, and the ethical dilemmas that we face if we do (or do not) bury the high-level nuclear waste currently being stockpiled at surface sites all around the world. Dr. Weaver is obviously the model for the protagonist of the story, though I can only hope that many of the slippery predicaments the fictional character finds himself in are products of Dr Weaver's active imagination!

In this way, Dr. Weaver promotes his point of view on these politically-charged environmental issues. He has no doubt been thinking about these issues for years, and wanting to publicize this information to the general public to help disseminate accurate information and dispel many of the myths surrounding these hot-button topics.

From the standpoint of the technical issues discussed in the book, it is well worth reading. From a novel point of view, the book starts off a bit slow and I would say comes off as a freshman effort, but by page 100 when construction of the site actually commences, the action takes off and I found myself absorbed in the story and the characters. There are enough twists and turns to keep one guessing about what will happen next, plus enough exchanges going on "between the sheets" to stimulate even the most academic clay mineralogist's mind!

Congratulations to Chuck for his effort, especially in trying to disseminate accurate technical information to the lay person, in the form of a novel. This is one good way to reach out to the general population who is not apt to seek out information from non-fiction books about the technical issues involved in these environmental hot-topics.

Eric Daniels
La Habra, California

Czech National Clay Group Holds Conference

The XVIth Conference on Clay Mineralogy and Petrology sponsored by the Czech National Clay Group was held August 27-31, 2000 in Karlovy Vary. Fifty-four oral and 22 poster presentations were given. There were five plenary lecturers as follows: D.C. Bain, J. Konta, H.H. Murray, A. Yamagishi and B.B. Zvyagina. The proceedings of the conference will be published early in 2001. Dr. Haydn H. Murray was awarded honorary membership in the Czech National Clay Group during the opening session. A very well organized field trip was taken by the participants on Wednesday, August 30. Visits were made to several residual kaolin mines, one bentonite mine, and a large porcelain plant. Over 500,000 tons of washed kaolins are produced in the Czech Republic annually.



(Left to right) Bella Zvyagina, Haydn Murray, Akihiko Yamagishi and Derek Bain are plenary lecturers at the XVIth Czech Clay Conference August 30, 2000.

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publisher of clays and clay minerals

Purpose

To stimulate research and to disseminate information relating to all aspects of clay science and technology.

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- Organizing trips to laboratories, industrial plants, and field occurrences of clays.
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- Publishing the CMS Workshop Lectures Series and occasional Special Publications.
- Offering selected books to its members from time to time at a discount over the publisher's posted price.
- Member discounts on publications of the Mineralogical Society of America.
- Supporting the Source Clays Project which is designed to provide homogeneous clay samples for research purposes.
- Publishing the bimonthly journal *Clays and Clay Minerals*, and a newsletter containing information about Society activities, related conferences, and non-technical articles of interest to the clay science community.

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38th Annual Meeting of the Clay Minerals Society Madison, Wisconsin June 16-20, 2001

Workshop

Topic: Degradation of organic contaminants at clay-mineral and oxide surfaces
Organizers: Valentie Nzengung and Jim Amonette

Technical Program

- Biomineralization ~ Jill Banfield, organizer
- Clay Science, Visions from Industry ~ Bill Moll, organizer
- Environmental Mineralogy/Surface Chemistry ~ David Laird and Michael Thompson, organizers
- Mineralogy of Quaternary Deposits and Paleosols ~ Wayne Hudnall, organizer
- Montmorillonites in Geoenvironmental Engineering ~ Tuncer Edil and Craig Benson, organizers
- Shale and Low Grade Metamorphic Petrology ~ Paul Schroeder and Andy Thomas, organizers
- General Sessions ~ David Laird and Michael Thompson, organizers

Venue

The Monona Terrace, designed by world renowned architect and Madison native, Frank Lloyd Wright, overlooks Lake Monona just two blocks from Capital Square. State Street, the social hub of Madison, joins Capital Square with the scenic campus of the University of Wisconsin on Lake Mendota. Plan to arrive early and attend the Farmer's Market on Capital Square, Saturday, June 16, 2001.

Contacts

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